

INSTRUMENT AND METHOD FOR METROLOGY

ABSTRACT OF THE DISCLOSURE

A metrology instrument and method is offered which is capable of measuring the deviations between elements of an actual pattern at their joint without making any sample pattern for inspection in measuring and inspecting deviations produced at the joint portion when the pattern is drawn or transferred. The deviation ΔX parallel to the joint portion is found from an image obtained for inspection. On the other hand, the dose distribution diagrams of both elements of the pattern on the opposite sides of the joint portion are calculated. These dose distribution diagrams are shifted by ΔX along the joint portion and by a desired amount ΔY vertical to the joint portion. Then, the diagrams are superimposed together. The resulting image is compared with the image for the inspection and the correlation between them is found. The value of ΔY which minimizes the correlation (i.e., maximizes the degree of similarity) is found.